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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/501,534	07/16/2004	Nils Olof Eriksson	000254.00044	6365

22907 7590 10/19/2005

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WASHINGTON, DC 20001

EXAMINER

SCHNEIDER, CRAIG M

ART UNIT	PAPER NUMBER
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3753

DATE MAILED: 10/19/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

<b>Office Action Summary</b>	<b>Application No.</b>	<b>Applicant(s)</b>	
	10/501,534	ERIKSSON, NILS OLOF	
	<b>Examiner</b>	<b>Art Unit</b>	
	Craig M. Schneider	3753	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

#### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

#### Status

- 1) ☒ Responsive to communication(s) filed on 7/16/04.
- 2a) ☐ This action is FINAL. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

#### Disposition of Claims

- 4) ☒ Claim(s) 1-18 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-18 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

#### Application Papers

- 9) ☒ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 16 July 2004 is/are: a) ☐ accepted or b) ☒ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

#### Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some \* c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

#### Attachment(s)

- |  |   |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)                        | 4) <input type="checkbox"/> Interview Summary (PTO-413)                     |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)               | Paper No(s)/Mail Date. _____  |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| Paper No(s)/Mail Date <u>7/16/04</u> .   | 6) <input type="checkbox"/> Other: _____                                    |

## **DETAILED ACTION**

### ***Specification***

1. Applicant is reminded of the proper language and format for an abstract of the disclosure.

The abstract should be in narrative form and generally limited to a single paragraph on a separate sheet within the range of 50 to 150 words. It is important that the abstract not exceed 150 words in length since the space provided for the abstract on the computer tape used by the printer is limited. The form and legal phraseology often used in patent claims, such as "means" and "said," should be avoided. The abstract should describe the disclosure sufficiently to assist readers in deciding whether there is a need for consulting the full patent text for details.

The language should be clear and concise and should not repeat information given in the title. It should avoid using phrases which can be implied, such as, "The disclosure concerns," "The disclosure defined by this invention," "The disclosure describes," etc.

2. The disclosure is objected to because of the following informalities: On page 7, line 22 "thorough" should be replaced with --through--.

Appropriate correction is required.

3. The disclosure is objected to because of the following informalities: On page 16, line 23 "11" should be replaced with --12--.

Appropriate correction is required.

### ***Drawings***

4. Figure 1 should be designated by a legend such as --Prior Art-- because only that which is old is illustrated. See MPEP § 608.02(g). Corrected drawings in compliance with 37 CFR 1.121(d) are required in reply to the Office action to avoid abandonment of the application. The replacement sheet(s) should be labeled "Replacement Sheet" in the page header (as per 37 CFR 1.84(c)) so as not to obstruct

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any portion of the drawing figures. If the changes are not accepted by the examiner, the applicant will be notified and informed of any required corrective action in the next Office action. The objection to the drawings will not be held in abeyance.

***Claim Rejections - 35 USC § 112***

5. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

Claim 1-18 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

I. The conjunction recited throughout the claim "or" renders the claim indefinite as it is unclear which structures are present and required. The first and further means in claim 1 along with the term "or" allows for the same movement for the same device.

***Claim Rejections - 35 USC § 102***

6. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

7. Claims 1-3, <sup>5-7, 12-13</sup>~~5-13~~, 15-18 are rejected under 35 U.S.C. 102(b) as being anticipated by Rochat et al. (4,467,834).

8. Regarding claims 1, 2, 9, 17, and 18; Rochat et al. disclose a valve arrangement (as seen in Figure 1) with at least two inlets (area between 3-5 and 4-6), adapted each

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for a medium, and at least one outlet (10), through which a chosen mixture of the media can pass (col. 2, Ins. 7-14), the inlets being furthermore adapted to interact each via a section (5, 6) of channel with associated openings (23, 24) in a valve seating (22) (col. 2, Ins. 59-62) while the outlet is adapted to interact via a section (9) of channel with an associated opening (27, 28) in a valve gate (col. 2, Ins. 65-66), whereby a first means/first device (34) is available in order to control at least the motion of the valve gate (25, 26) relative to the valve seating or vice versa in such a manner that at least one chosen mixing ratio and/or one chosen rate of flow can be regulated (col. 3, Ins. 21-37), characterized in that a glide surface and/or an interface (area between 25, 26, and 22) between the valve seating and the valve gate is chosen to be plane, or at least essentially plane, that a further means/second device (38) is available in order to control the motion of the valve gate relative to the valve seating or vice versa in such a manner that the two means in order to control the motion of the valve gate and/or the motion of the valve seating or vice versa (col. 3, Ins. 38-43), are formed such that they comprise two distinct devices each controlling one motion.

9. Regarding claim 3, Rochat et al. further disclose that the first device, which controls the motion of the valve gate, is adapted to endow via a rotational motion a translation or displacement motion oriented parallel to the interface to the valve gate (col. 3, Ins. 8-20).

10. Regarding claim 5, Rochat et al. further disclose that the directions of motion are chosen to be straight and distinct from each other, preferably at an angle of approximately 90° as seen in Figure 3.

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11. Regarding claim 6, Rochat et al. further disclose that the media are supplied to the inlets at the same pressure, or at essentially the same pressure (col. 2, Ins. 7-14), whereby a regulation of the rate of flow, via the further means and its associated device can be carried out without influencing the mixing ratio, or a regulation of the mixing ratio (col. 3, Ins. 38-43), via the means and its associated device, can be carried out without influencing the rate of flow (col. 3, Ins. 21-37).

12. Regarding claim 13, Rochat et al. further discloses that the first direction of motion is offered via a rotational motion at an angle, whereby the two displacement motions can occur each via one of two axes of rotation arranged parallel to each other (col. 3, Ins. 44-54).

13. Regarding claim 15, Rochat et al. further disclose that the valve gate is arranged to be displaced backwards and forwards in a box shaped second casing section as seen in Figure 1 (col. 3, Ins. 21-43).

14. Regarding claim 16, Rochat et al. further disclose that the rotational motion interacts with a nut (37) but interacting in a somewhat flexible manner with the valve gate (col. 2, Ins. 59-68 onto col. 3, Ins. 8-20).

***Claim Rejections - 35 USC § 103***

15. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

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16. Claim 1, 4 and 14 are rejected under 35 U.S.C. 103(a) as being unpatentable over Kervin (4,151,684) in view of Rochat et al.

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Kervin discloses a valve arrangement (as seen in Figure 1) with at least two inlets (28 and 30), adapted each for a medium, the inlets being furthermore adapted to interact each via a section (area between 10 and 12 of openings 28 and 30) of channel with associated openings (36 and 38) in a valve seating (20 and 22) (col. 2, Ins. 35-62), whereby a first means/first device (74) is available in order to control at least the motion of the valve gate (24) relative to the valve seating or vice versa in such a manner that at least one chosen mixing ratio and/or one chosen rate of flow can be regulated (col. 4, Ins. 1-7), characterized in that a glide surface and/or an interface (area between 20, 22, and 24) between the valve seating and the valve gate is chosen to be plane, or at least essentially plane, that a further means/second device (68 or 70) is available in order to control the motion of the valve gate relative to the valve seating or vice versa in such a manner that the two means in order to control the motion of the valve gate and/or the motion of the valve seating or vice versa (col. 4, Ins. 8-39), are formed such that they comprise two distinct devices each controlling one motion. Kervin does not disclose at least one outlet, through which a chosen mixture of the media can pass and that the outlet is adapted to interact via a section of channel with an associated opening in a valve gate. Rochat et al. disclose that at least one outlet (10), through which a chosen mixture of the media can pass (col. 2, Ins. 7-14) and that the outlet is adapted to interact via a section (9) of channel with an associated opening (27, 28) in a valve gate (col. 2, Ins. 65-66).

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It would be have been obvious to one having ordinary skill in the art at the time the invention was made to utilize the outlet and mixing channel of Rochat et al. onto the valve of Kervin, in order to create one device that would mix the fluids.

17. Claim 7 is rejected under 35 U.S.C. 103(a) as being unpatentable over Rochat et al.

Rochat et al. disclose a rotational/displacement motion gear ratio. Rochat et al. does not disclose the specific rotational/displacement motion gear ratio but one skilled in the art in making gas mixing valves would have selected a suitable choice of rotational/displacement motion gear ratio in which 0.5-2.0 mm = revolution is included. Therefore it would have been obvious to modify the valve of Rochat et al. to have a 0.5-2.0 mm = revolution, in order to provide small changes in the media's mixture.

18. Claim 12 is rejected under 35 U.S.C. 103(a) as being unpatentable over Rochat et al. as applied to claim 1 above, and further in view of von Borries et al. (4,375,824.

Rochat et al. have disclosed all the features of the claimed invention, except that the valve gate is pressed against the valve seating with the aid of a spring unit. Von Borries et al. disclose that a valve gate (4d) is pressed against the valve seating with the aid of a spring unit (14')(col. 7, Ins. 28-33).

It would have been obvious to one having ordinary skill in the art at the time the invention was made to utilize the spring of von Borries et al. onto the valve gate of Rochat et al., in order to create a tight fitting between the two plates.

***Allowable Subject Matter***



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19. Claims 8-11 would be allowable if rewritten to overcome the rejection(s) under 35 U.S.C. 112, 2nd paragraph, set forth in this Office action and to include all of the limitations of the base claim and any intervening claims.

***Conclusion***

20. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. McNamara (1,855,359), Pearse (2,563,955), Goodwin (2,843,150), Enterante (3,245,430), and Lin (5,185,893) are other examples of mixing valves.

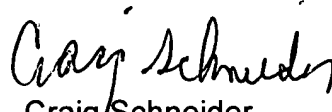
21. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Craig M. Schneider whose telephone number is (571) 272-3607. The examiner can normally be reached on M-F 8:30 -5:00.

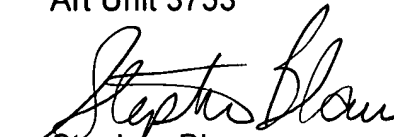
If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Stephen Blau can be reached on (571) 272-4406. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

CMS  
October 14, 2005

  
Craig Schneider  
Patent Examiner  
Art Unit 3753

  
Stephen Blau  
Primary Examiner